UNITED STATES PATENT AND TRADEMARK OFFICE

COMMISSIONER FOR PATENTS
UNITED STATES PATENT AND TRADEMARK OFFICE
P.O. BOX 1450
ALEXANDRIA, VA 22313-1450
www.uspto.gov

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/064,380
Filing Date: July 08, 2002
Appellant(s): BEIGEL ET AL.

Robert E. Malm
For Appellant

This is in response to the appeal brief filed 4/23/04.

EXAMINER'S ANSWER

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is correct.

(7) Grouping of Claims

Appellant's brief includes a statement that the claims do not stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

4942393	Waraksa	07-1990
5276910	Buchele	01-1994
5517194	Carroll	05-1996
4864633	Chatelot	09-1989
3587017	Kurusu	06-1971
4278980	Ogita	07-1981
3223779	McFarlane	12-1965

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1. Claims 20-24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which

was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Regarding claims 20-24, the specification does not describe the specific weighted integrations claimed. While weighted integrations may be well known in the art, the specific integrations claimed are not discussed in the present specification as required MPEP 608.01(p) A.

> An application as filed must be complete in itself in order to comply with 35 U.S.C. 112. Material nevertheless may be incorporated by reference, Ex parte Schwarze, 151 USPQ 426 (Bd. App. 1966). An application for a patent when filed may incorporate "essential material" by reference to (1) a U.S. patent, (2) a U.S. patent application publication, or (3) a pending U.S. application, subject to the conditions set forth below. "Essential material" is defined as that which is necessary to (1) describe the claimed invention, (2) provide an enabling disclosure of the claimed invention, or (3) describe the best mode (35 U.S.C. 112). In any application which is to issue as a U.S. patent, **essential material may not be incorporated by reference** to (1) patents or applications published by foreign countries or a regional patent office, (2) non-patent publications, (3) a U.S. patent or application which itself incorporates "essential material" by reference, or (4) a foreign application.

ART REJECTION

2. Claims 32 and 72 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Waraksa (4942393).

Waraksa shows a reader that receives data from a tag. The reader receives a data sequence transmitted by the tag, see figure 9. The data sequence includes a synch sequence, an identity code tag data and error bits. The error bits are used to determine if the received sequence is 'correct' or 'incorrect'. See col. 5 lines 55+.

3. Claims 36-40 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Buchele (5276910).

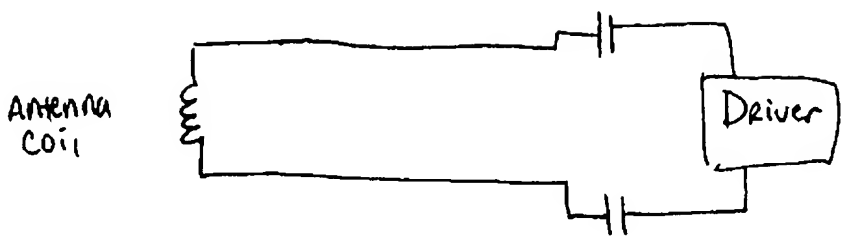
Buchele shows a reader with a coil 190, a capacitor 160 coupled to the coil. Buchele also shows the reader to include a means to drive the coil including four FETs arranged in a bridge to recycle the energy of the driver circuitry, see col. 3 lines 10+.

4. Claims 70,71,73-80 are rejected under 35 U.S.C. 102(e) as being unpatentable over Carroll (5517194).

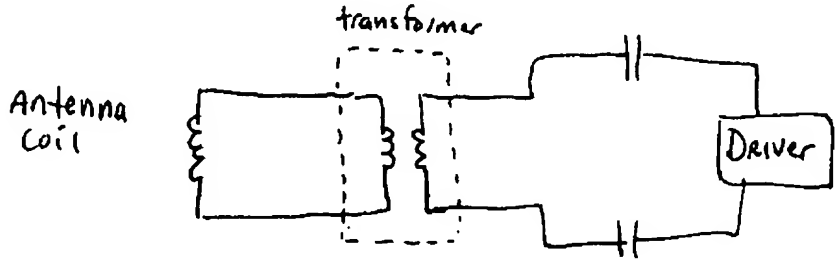
Carroll shows a method of interrogating a tag by generating an alternating magnetic field. See col. 7 lines 5-15. The reader sends data to the tag preceded by a bit timing clock signal. See figure 4b. The tag sends a signal to the reader that includes data that is preceded by bit timing clock signal.

5. Claims 1,3,41,43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chatelot (4864633) and Kurusu (3587017).

Chatelot shows a reader for communicating to a "tag", see figure 2. Chatelot shows the reader including a coil 13, two capacitors 19, a means for coupling the capacitor to the coil 24, a means to drive the coil with a driving signal 37, a mean to generate the driving signal 36, and a means to extract data from the tag 22. The tag includes a power extractor as well as a data extractor, see col. 2 lines 55+ and includes a transmission reception coils the same as the associated reader (see col. 2 line 53) , as illustrated simply in the following figure.



Chatelot does not expressly show connecting the capacitor to the coil and other circuits using a transformer as claimed and illustrated simply in the following figure.



In an analogous art, Kurusu shows a transformer connecting a capacitor 21 and other circuits to the antenna 11. The transformer provides isolation between the antenna coil and the other circuits. Kurusu shows the relationships of the coil, capacitor and extractor circuit and the first and second windings of the transformer. The desirability of isolation is verily well known in the art since it protects circuit elements from damage.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have used a transformer in the Chatelot system to provide

isolation between the communication antenna coil and the other circuits in the reader as suggested by Kurusu.

6. Claims 2,4,42,44,45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chatelot (4864633) and Ogita (4278980).

Chatelot shows a reader for communicating to a "tag", see figure 2. Chatelot shows the reader including a coil 13, two capacitors 19, a means for coupling the capacitor to the coil 24, a means to drive the coil with a driving signal 37, a mean to generate the driving signal 36, and a means to extract data from the tag 22. The tag includes a power extractor as well as a data extractor, see col. 2 lines 55+ and includes a transmission reception coils the same as the associated reader (see col. 2 line 53), see figures above

In an analogous art, Ogita shows a transformer connecting a capacitor 34 and other circuits 37,38,39 to the coil 21. The transformer provides isolation between the antenna coil and the other circuits see col. 5 lines 10+.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have used a transformer in the Chatelot system to provide isolation between the communication antenna coil and the other circuits in the reader as suggested by Ogita.

7. Claims 5-13,25,47,48,50-60,62-64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carroll (5517194).

Carroll shows a reader 10 which includes a coil 18, a means for driving the coil 16, a means for generating a driving signal 12 and means to embed bit-timing in the driving signal by transmission of synchronization 114 (figure 4b). Carroll also shows embedding a sequence of data bit to be communicated to the tag as work 118. Carroll does not expressly show a capacitor for coupling the coil and the driving means in the reader. Carroll does show in the transponder or tag, that the use of a capacitor 44 between the coil 42 and the transmission driver 72 can provide tuning. See col. 20 lines 14+. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have used a capacitor between the coil and the transmission driver to provide tuning.

Regarding claims 6-11,57-60 Carroll shows the use of PSK. It is well understood that PSK is a modulation technique where the phase of the carrier signal is modified in accordance with data (here the driving sequence) to convey ones and zeros.

Regarding claims 12,13,25-31,61-64 Carroll also shows the use of FSK. It is well understood that FSK is a modulation technique where the frequency of the carrier signal is modified in accordance with data (here the driving sequence) to convey ones and zeros. It is also well known that in order to decode FSK into bits, a determination of the frequency being above or below a threshold is necessary or inherent.

It is well within the skill in the art to choose between transmission encoding schemes to provide optimal transmission methods.

Furthermore, as argued by the appellant on page 31 of the response filed 10/29/03 is evidence that weighted integration is well known for suppressing ISI.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have used weighted integration in the Carroll system in order to suppress ISI.

8. Claims 14-17,61,64-68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carroll (5517194) as applied to claims 5 and 56 above, and further in view of McFarlane (3223779).

In an analogous art, McFarlane shows a communication system that communicates using both FSK and PSK to increase bandwidth see figure 2a. Much like QPSK, this would provide 4 different (or orthogonal) keyed combinations to transmit data that can be called "00" "01" "10" "11". Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have used both FSK and PSK simultaneously in the Carroll in order to increase the bandwidth of the system.

9. Claims 26-31,34,35,37,38,40,69 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

(11) Response to Argument

Regarding the 112 rejections of claims 20-24. The appellant argues that since the subject matter of claims 20-24 is well known the present application does not need

to disclose it. The appellant then proceeds to cite reference material listing where such information can be found. The appellant's conclusion is incorrect. All claimed subject matter must be supported by the disclosure. Incorporation by reference can be made for some subject matter, however explicit disclosure is required for essential (claimed) subject matter. Furthermore, the appellant's argument is evidence that the subject matter of claims 20-24 is well known. While weighted integrations may be well known in the art, the specific integrations claimed are not discussed in the present specification as required MPEP 608.01(p) A.

> An application as filed must be complete in itself in order to comply with 35 U.S.C. 112. Material nevertheless may be incorporated by reference, Ex parte Schwarze, 151 USPQ 426 (Bd. App. 1966). An application for a patent when filed may incorporate "essential material" by reference to (1) a U.S. patent, (2) a U.S. patent application publication, or (3) a pending U.S. application, subject to the conditions set forth below. "Essential material" is defined as that which is necessary to (1) describe the claimed invention, (2) provide an enabling disclosure of the claimed invention, or (3) describe the best mode (35 U.S.C. 112). In any application which is to issue as a U.S. patent, **essential material may not be incorporated by reference** to (1) patents or applications published by foreign countries or a regional patent office, (2) non-patent publications, (3) a U.S. patent or application which itself incorporates "essential material" by reference, or (4) a foreign application.

Regarding the 102 rejection of claim 32. The appellant argues (1) that Waraksa does not disclose, "Sync sequence of S data bits." Waraksa discloses an S-bit sync sequence in the preamble as claimed (col. 5 lines 55+ shows a 4 bit sync sequence) 101010 as disclosed by Waraksa includes "1" and "0", these binary outputs are considered bits. The appellant has not claimed that these bits must be capable of being decoded. The appellant does not claim that sync "bits" are the same format as the data "bits." The appellant argues (2) that Waraksa does not show the data and error groups possibly including false sequences. This is only claimed as an alternative feature, and

as such is not interpreted as a positive limitation. Furthermore, regarding arguments 1 and 2, these limitations only exist in the preamble and are not given weight since it does not breath life and meaning into the claim. MPEP 2111.02. The recitations have not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951). The appellant argues (3) that Waraksa does not disclose receiving the repeated data sequence. The limitation here requires a means for receiving the data sequence transmitted by the tag. This is shown since the receiver of Waraksa receives repeated data sequence that includes the sync bits, an id code and an error code, see col. 5 lines 55-65, this combination of data, error and sync bits meets the appellant's definition of data sequence. It is noted that the claims do not require decoding the received sequence and therefore also read on Waraksa's receiving of the sync data sequence. The appellant argues (4) that Waraksa does not detect each sync sequence. Ordinary data bits is neither claimed nor defined by the appellant. The appellant is completely misapplying the definitions in the art. In order for the communication decoder to operate, the sync sequence inherently must be detected. There is no limitation in the claim that the detection be the determination of the particular sequence of bits, as the appellant attempts to introduce in the arguements.

The claim limitation is that the reader detects (not decodes) each sync sequence. Since the reader of Waraksa must detect the sync sequence in order for proper operation of the system, it reads on the claim. Here again it is pointed out that detection is what the claim requires, not decoding. The appellant argues (5) that Waraksa does not examine all data bits and identify a sync sequence. This has nothing to do with the limitation in question (or any other limitation that exists in claim 32). The limitation that the appellant points to requires a means to identify the preamble. The preamble of Waraksa includes the sync sequence. Because Waraksa detects the sync sequence, the preamble is identified. The appellant argues (6) that Waraksa does not show a data sequence containing a message as defined by the claim. Waraksa uses the sync sequence as a preamble to pre-empt the data sequence, therefore it is known by Waraksa that the data sequence follows the sync sequence. Contrary to the appellant's assertion, this does meet the definition of preamble claimed by the appellant. As defined by the claim, a preamble contains sync bits, as set forth in Waraksa col. 5 lines 55+, the first four bits are sync bits. The appellant argues that the structure disclosed by Waraksa does not meet the means plus function rules for anticipating the claimed device. Once the reference has been determined to show the claimed functions of a means plus function claim, a determination as to the structure must be made. The appellant discloses a receiving means (figure 3) which is equivalent to the receiver L1,C1,C2. Appellant discloses a microprocessor as the detecting, identifying and extracting means where the reference shows a microcomputer. These are more than equivalent in that a microcomputer is a microprocessor with some additional memory to

perform the computing. The appellant then argues that Waraksa's microcomputer does not operate bit-by-bit. This is not an argument of different structure but an argument of different operating functions performed. We cannot read function limitations into a means plus function element, and since this bit-by-bit comparison function has not been claimed it is not afforded weight in the claims. The specification of Waraksa specifically call the sync sequence "sync bits" The appellant is blatantly attempting to redefine the term bit to mean something so contrary to it's normal meaning in the art that such an interpretation is not permitted.

Regarding the 102 rejection of claim 72. Responses to these arguments can be found in the discussion of claim 32 above.

Regarding the 102 rejection of claim 36. The appellant argues that the claim should be given proper consideration under 35 USC 112 sixth paragraph and since not all of the disclosed structure is shown by Buchele the rejection should be withdrawn. The appellant argues 1) that the capacitor 160 is not coupled to the coil 190 directly or indirectly through a transformer or equivalent thereof. The claim requires a means to couple the capacitor to the coil. Elements 120,130,140, and 150 couple the capacitor 160 to the coil 190 by means of FETS that operate to isolate the circuits and are known to function equivalently to transformers. Additionally, the specification does not specifically set forth that this coupling means includes a transformer; the embodiment shown in figure 2 of the instant application does not include a transformer. MPEP 2181 sets forth the elements of a claim that must be met before a claim should be considered a means plus function claim.

A claim limitation will be interpreted to invoke 35 U.S.C. 112, sixth paragraph if it meets the following 3-prong analysis:

(A) the claim limitations must use the phrase "means for" or "step for";

(B) the "means for" or "step for" must be modified by functional language; and

(C) the phrase "means for" or "step for" must not be modified by structure, material or acts for achieving the specified function.

Claim 36 (limitation 2) fails to meet element C above because the means is significantly modified by structure. Therefore, only the structure specifically set forth in the claims is given weight and the examiner has pointed out that Buchele teaches these limitations. The appellant has chosen not to address this position that was set forth in the last Office Action, therefore the appellant must agree with the examiner's position. Furthermore, the appellant's comments appear to support the examiner's position that the claimed elements are taught by the reference.

Regarding the 102 rejection of claim 70. The appellant argues that Carroll does not disclose embedding a bit timing clock signal in the alternating magnetic field. The appellant does not seem to question the alternating magnetic field carrier of this limitation. The output of element 58 is a bit timing clock signal, the input to element 58 is the signal received from the reader, therefore, the clock signal is inherently embedded in the signal transmitted from the reader. The claims require bit timing clock signal. The appellant argues the bits in the sync block of Carroll are all zeros and are therefore not a bit timing clock signal. Since Carroll's bit timing clock sequence provides timing for the bit clock 60 it meets the limitation claimed. Furthermore, the claims do not require bit and timing clock "data". Assuming that the appellant is correct

in stating that the bit timing signal is generated by the transponder 40, and the reader's data to the tag is synchronized with that bit timing signal, then the data from the reader to the tag has **embedded** data related to the bit timing signal.

Regarding the 102 rejection of claim 71. The appellant argues (1) that Carroll does not include a tag that responds by transmitting a bit timing clock signal synchronized to the bit timing clock signal from the interrogator. The sync signal that is generated in element 70 of Carroll is a bit timing clock signal. Furthermore, the recitation (1) has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951). The appellant argues (2) that the tag does not transmit a bit timing clock signal. The sync signal that is generated in element 70 of Carroll is a bit timing clock signal. Assuming that the appellant is correct in stating that the bit timing signal is generated by the transponder 40, and the reader's data to the tag is synchronized with that bit timing signal, then the data from the reader to the tag has embedded data related to the bit timing signal. The appellant argues (3) that the tag does not transmit the bit timing clock signal. The sync signal that is generated in element 70 of Carroll is a bit timing clock signal and is transmitted through the PSK

modulator. The appellant argues (4) that the bit timing clock signal is not uses to aid in extracting data from the response signal. It is noted that the interrogator receiving the response from the tag uses the bit timing clock signal generated by element 70 in order to properly receive and decode the response.

Regarding the 102 rejection of claim 73. The appellant argues that Carroll does not show maintaining the resonating circuit in resonance. This feature is inherent to any receiver that is attempting to receive data on a carrier (which Carroll does). If any such device does not stay "tuned" to the resonant frequency the data would not be received. The appellant ignored the examiners evidence that data would not be received if the device did not stay tuned to the resonant frequency.

Regarding the 102 rejection of claim 74. The appellant argues (1) that the reader does not embed a bit timing clock signal into the alternating magnetic field. Again the appellant ignored the rebuttal argument presented by the examiner in the Office Action, repeated here: Element 102 (Carroll) is a 4-bit time sync. block, see col. 15 lines 15+. Assuming that the appellant is correct in stating that the bit timing signal is generated by the transponder 40, and the reader's data to the tag is synchronized with that bit timing signal, then the data from the reader to the tag has **embedded** data related to the bit timing signal. Furthermore, this has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a

structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951). The appellant argues (2) that the bit timing clock signal is not synchronized to the bit timing clock signal from the interrogator. The sync generator 70 is synchronized to the received clock signal since the timing control element 60 drives all the elements that follow, etc 64,48,68 and 70. The appellant argues (3) that Carroll does not use weighted integration to identify the bit period. Dividing by 64 is weighted integration for providing the claimed feature. The appellant argues (4) that the Carroll does not identify the bit transmitted during a period using weighted integration. Element 62 does use the weighted integration to identify the incoming data. The examiner has emphasized repeatedly that the appellant's claims are not as narrow as they argue. The claims do not require that the bit-timing signal be "originated" by the reader, merely that the signal from the reader includes some embedded bit timing signal. Since the reader sends data synchronized using the bit-timing signal the appellant argues is originated by the transponder, the data from the reader includes embedded bit timing signal information.

Regarding the 102 rejection of claim 75. The appellant argues (1) that Carroll does not show a bit-timing signal in the signal from the reader. Element 102 (Carroll) is a 4-bit time sync. block, see col. 15 lines 15+. Since the reader sends data synchronized using the bit-timing signal the appellant argues is originated by the

transponder, the data from the reader includes embedded bit timing signal information. Furthermore, this has not been given patentable weight because the recitation occurs in the preamble. A limitation in the preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951). The appellant argues (2) that the bit timing clock signal is not synchronized to the bit timing clock signal from the interrogator. The sync generator 70 is synchronized to the received clock signal since the timing control element 60 drives all the elements that follow, etc 64,48,68 and 70. The appellant argues (3) that Carroll does not show the tag modulating the field to send a sequence of bits to the reader where the start of each is determined by the bit timing clock signal. First, as taught by Carroll it is noted that the data following a bit timing sequence provides the claimed feature. Furthermore, the bit-timing signal of the reader is used to provide the control of half duplex communication, which would govern the start of each transmission. The examiner has emphasized repeatedly that the appellant's claims are not as narrow as they argue. The claims do not require that the bit-timing signal be "originated" by the reader, merely that the signal from the reader includes some embedded bit timing signal. Since the reader sends data synchronized using the bit-timing signal the appellant argues is originated by the transponder, the data from the reader includes embedded bit timing signal information.

Regarding the 102 rejection of claim 76. The appellant argues (1 and 2) that Carroll does not disclose extracting the bit timing clock signal from the carrier generated by the interrogator. Elements 58 and 60 extract the bit timing clock signal from the carrier generated by the interrogator. The appellant argues (3) that the bit timing clock signal is not synchronized to the bit timing clock signal from the interrogator. The sync generator 70 is synchronized to the received clock signal since the timing control element 60 drives all the elements that follow, etc 64,48,68 and 70. The appellant argues (4) that Carroll does not show the tag modulating the field to send a sequence of bits to the reader where the start of each is determined by the bit timing clock signal. First, as taught by Carroll it is noted that the data following a bit timing sequence provides the claimed feature. Furthermore, the bit-timing signal of the reader is used to provide the control of half duplex communication, which would govern the start of each transmission.

Regarding the 102 rejection of claim 77. The appellant argues (1 and 2) that Carroll does not disclose extracting the bit timing clock signal from the carrier generated by the interrogator. Elements 58 and 60 extract the bit timing clock signal from the carrier generated by the interrogator. The appellant argues (3) that Carroll does not use weighted integration to identify the bit period. Dividing by 64 is weighted integration for providing the claimed feature. The appellant argues (4) that the Carroll does not identify

the bit transmitted during a period using weighted integration. Element 62 does use the weighted integration to identify the incoming data.

Regarding the 102 rejections of claims 2-4, 42-45 ,78-80. Appellant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references. As pointed out in the rejections above, the limitations are shown by the references.

Regarding the 103 rejections of claim 1 (Chatelot and Kurusu) or (Chatelot and Ogita). The appellant argues that there is nothing in Chatelot that suggests the substitution of a transformer for the direct connections of capacitor 19 to coil 13. In response to appellant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the examiner has pointed out general knowledge that a transformer coupling provides isolation between circuits and is generally desirable. The applicant has not questioned the holding that a transformer provides isolation.

Regarding the 103 rejections of claim 41 (Chatelot and Kurusu or Ogita). The appellants argue that Chatelot does not show the limitations of element 1. This appears to be the only argument for this claim (with this rejection). One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Regarding the 103 rejection of claim 5 (Carroll). The appellant argues that Carroll did not see the need for a tuning capacitor in the reader and therefore a person of ordinary skill would not see a need for a tuning capacitor. The appellant also argues that since the reader of Carroll appears to work fine, there would be no reason to modify it. In response to appellant's argument that there is no suggestion to modify the reference, the examiner recognizes that obviousness can only be established by modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the appellant has not prevented any evidence that refutes the examiners motivational statement that using a capacitor between the coil and the transmission driver would provide tuning. Nor, has the appellant provided any evidence why tuning would not be desirable in the reader.

The appellant argues that Carroll does not include 4) a means for embedding a bit timing clock signal in the driving signal. The claims do not require that the bit timing signal be "originated" by the reader, as the appellant argues, merely that the signal from the reader includes some embedded bit timing signal. Since the reader sends data synchronized using the bit-timing signal the appellant argues is originated by the transponder, the data from the reader includes embedded bit timing signal information.

Regarding the 103 rejections of claims 6-11 (Carroll). The appellant argues that Carroll does not have a reader sending PSK data to the tag. While Carroll does in fact teach using FSK to communicate data to the tag, Carroll also teaches the use of PSK to transmit data. It is well within the skill in the art to choose between transmission encoding schemes to provide optimal transmission methods. The appellant states that because something is well known, that is not sufficient motivation. The examiner did not rely on the fact that PSK is well known for motivation, the rejection above and repeated here states that changing between known schemes would optimize transmissions. The appellant argues that Carroll's PSK is a reversal of the phase of the driving signal and is therefore not a periodic signal having a first phase when a "0" is transmitted and a second phase when a "1" is transmitted. While there may be times in Carroll's transmission when these "0" and "1" rules do not apply there are times when these rules do apply. All that is required by the claim is that a "0" be identified (at least once) by a first phase and a "1" be identified (at least once) by a second phase, this is shown by Carroll. The signal of Carroll is periodic in that it has a steady bit period.

Regarding the 103 rejections of claims 12,13,25 (Carroll). The appellant argues that Carroll does not transmit a periodic signal having a first frequency to represent a "0" and a second frequency to represent a "1". What the appellant claims is FSK. The appellant argues that examiner is incorrect in this interpretation, yet offers no explanation of why. It remains the position of the examiner that the claimed limitation is taught. Carroll discloses FSK for the claimed link between the reader and the tag. The appellant's claims are not as narrow as their arguments. The claims us open language, and since Carroll uses a periodic signal having a first frequency to represent a "0" and a second frequency to represent a "1" Carroll reads on the claim.

Regarding the 103 rejection of claim 47 (Carroll). The appellant argues that Carroll does not include a tag that generates a bit clock signal synchronized to the received reader's bit timing signal. As discussed above the readers bit timing signal is embedded in the driving signal and is synced to the tag bit timing signal generated b the tag. The appellant argues that the Carroll does not identify the bit transmitted during a period using weighted integration. The appellant argues that there is no bit timing signal originating in the reader that could be used by the transponder to synchronize its own bit-timing clock. This interpretation of the claimed subject matter by the appellant is much narrower than the claims actually require. The claim requires a bit-timing signal embedded in the driving signal from the reader and the transponder's bit timing is synchronized to this embedded bit timing signal. As discussed above, Carroll does

embed bit timing information in the driving signal in that the signal from the reader includes periodic bits, their start/end points "embed" the bit-timing signal into the driving signal. Additionally, the transponder of Carroll is synched to the bit-timing signal embedded in the driver signal because the sync element 70 forces this to occur.

Regarding the 103 rejections of claims 48-50 (Carroll). Appellant argues that the references do not show using weighted integration for determining the bit value. Element 62 does use weighted integration to identify the incoming data. Furthermore, as argued by the appellant on page 31 is evidence that weighted integration is well known for suppressing ISI.

Regarding the 103 rejections of claims 51-55 (Carroll). Appellant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references. Appellant is reminded that repeating a verbose claim and then stating plainly that the references do not show all that is claimed is a general allegation in that specific elements of the claims and references are not addressed. If the appellant wishes to write 80 claims then the appellant should address each of the claim's and why the are patentable, merely stating " the claimed elements aren't taught" is insufficient reason to withdraw the rejection. These claims are directed to means for modulation and demodulation. If the appellant attempts to read means plus function elements into these claims then the appellant

should specifically what structure is to be interpreted as the means, pointing to specific sections of the present specification for support.

Regarding the 103 rejections of claim 56 (Carroll). The appellant's arguments mirror and repeat the arguments for claim 70, which have been addressed above.

Regarding the 103 rejections of claims 57-60 (Carroll). The appellant argues that the use of Manchester coded PSK is not a teaching of the claim 57 limitation, claim 57 being used as a representative example in this section. The appellant is incorrect. As described by the appellant on page 55 of the response (5/29/03) Manchester coded PSK includes a first phase in the first bit portion when a "0" is transmitted and a second phase in the first bit portion when a "1" is transmitted. The claim require a first phase for a "0" and a second phase for a "1" but does not require that the phase be constant for the entire bit period. Here again the appellant is attempting to further limit the claims by unfairly "interpreting" limitations into the claims, which simply are not present. The appellant argues that the examiner's interpretation of the claim is incorrect because "for at least a portion of the time" does not exist in the claim. The claims do not preclude such an interpretation by including a limitation such as "for the entire bit period" and since the claim is construed in the open language "comprising," it is well held that the claimed limitation need only exist once in the prior art to be taught by the references.

Regarding the 103 rejections of claims 62-64 (Carroll). The appellant argues that Carroll does not include generating a first frequency to represent a "0" and a second frequency to represent a "1", and then modulating the driving signal with this periodic signal. Here again the appellant is attempting to further limit the claims by unfairly "interpreting" limitations into the claims, which simply are not present. Modulating an already generated FSK signal is not claimed. Claim 62 for example modulates the driving signal with a first frequency to represent a "0" and modulates with a second frequency to represent a "1", this is met by Carroll's FSK transmission.

Regarding the 103 rejection of claim 14-17,61,64-68 (Carroll and McFarlane). The appellant argues that McFarlane's modulation technique does not teach the limitation of claim 15. McFarlane teaches exactly what is claimed, see figure 2a. The first time portion represents a "00" transmission, which is represented by f2 with a zero phase offset, next follows "10" which is represented by f1 with zero phase offset, then follows "11" represented by f1 with a non-zero phase offset and then "01" represented by f2 with a non-zero phase offset. The appellant argues that there is no suggestion in Carroll to desire increased bandwidth and therefore there is no motivation to combine. Carroll shows the reading a writing of data too and from tags (transponders), this requires a certain amount of bandwidth. To increase the amount of data that can be sent too and from tags for the purpose of reading more tags or sending more data more bandwidth would be required. Therefore, contrary to appellant's argument, it is generally desirable to those in the art to increase the bandwidth of communication

systems. McFarlane teaches a combined FSK/PSK system for just that (increasing bandwidth).

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Brian A Zimmerman
Primary Examiner
Art Unit 2635

BAZ
June 14, 2004

Conferees:

Michael Horabik

MICHAEL HORABIK
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

Edwin Holloway

EDWIN C. HOLLOWAY III
PRIMARY EXAMINER

ROBERT E MALM
16624 PEQUENO PLACE
PACIFIC PALISADES, CA 90272